A New Genus of Coccoidea from Australian Eucalyptus (Homoptera)[1]

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Ferris (1919) pointed out that the type species of the genus *Sphaerococcus* Maskell, *S. casuarinae* Maskell, belongs to the subdivision of the Coccoidea which, as currently accepted, constitutes the family Pseudococcidae. Ferris also stated that probably none of the more than twenty other species which had been assigned by various authors of *Sphaerococcus* could be considered to be congeneric with *S. casuarinae*. Most of these species seem definitely not to be pseudococcids, although the proper family assignments of some of these unusual forms are as yet unresolved. Some of the species first described by Maskell in *Sphaerococcus* have been removed to other genera, but new generic assignments are still needed for several others. In the present paper, Maskell's *Sphaerococcus elevans* is redescribed and a new genus is proposed to accommodate it. The type material of this coccid was studied in connection with a revision of the genus *Sphaerococcopsis* Cockerell, species of which inhabit blister-like galls in *Eucalyptus* bark which are similar to those of *S. elevans*.

Floracoccus, new genus.

Type species: *Sphaerococcus elevans* Maskell.

Recognition characters: Coccoidea possibly referable to the Eriococcidae. Adult female globular; dorsum somewhat flattened with a large, central, roughly circular, raised, sclerotized boss. Dorsal surface of boss formed by contiguous orifices of a flower-like cluster of large, roughly conical, closed pouch-like invaginations; these without discernible internal glandular structures. Antennae reduced to unsegmented tubercles. Legs reduced to weakly sclerotized tubercles with indistinct segmentation; vestigial tarsal claws usually present. Labium one-segmented. Anal ring very small, without setae or pores. Anal lobes undeveloped. Quinquelocular disc pores present on venter; tubular ducts absent. Body setae sparse, very small.

Immature stages unknown.

The taxonomic affinities of *Floracoccus* are obscure, but study of the presently unavailable immature stages, particularly first instar larvae, may help to clarify these. The general body form and greatly reduced appendages suggest a relationship to *Cryptococcus* Douglas. The latter

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was assigned to the Eriococcidae by Hoy (1963), although Kosztarab and Hale (1968) have placed it in a separate family, the Cryptococcidae. This group differs from *Floracoccus* in having tubular ducts present and legs completely absent.

The bark galls of *Floracoccus elevans* are similar to those of *Sphaerococcopsis* species. The two genera may be allied, although *Sphaerococcopsis* is characterized by greatly enlarged hind legs and the presence of a sclerotized shield-like dorsum, characters not found in *Floracoccus*. So far as is known, the dorsal rosette of caeca-like invaginations, characteristic of *Floracoccus,* is unique among the Coccoidea. The function of this organ is obscure and no internal glandular structures were found associated with it. From Maskell's description of *elevans,* it is apparent that he failed to realize that the dorsal rosette is formed by dermal invaginations. He also missed seeing the vestigial legs and the quinquelocular disc pores of this species.

Floracoccus elevans (Maskell), new combination (Fig. 1).

Sphaerococcus elevans Maskell, 1895. Trans. New Zealand Inst. **28:** 68, pl. 7, Figs. 5-8.

Adult female: slide-mounted specimens nearly circular in outline, 0.9 to 1.4 mm long. Antennae one-segmented, about 15μ long, each bearing 3 or 4 fleshy sensory setae. Legs vestigial, 20 to 25μ long; segmentation weakly developed, usually composed of 2 or 3 weakly sclerotized lobes plus a minute apical claw; each leg bearing several (4 to 8) very small setae. Anal ring located dorsally near posterior end of body, very small, narrow, of irregular width; diameter of anal opening about 10μ. Venter of abdomen with about 120 to 150 quinquelocular disc pores distributed around gonopore and on prevulvar abdominal segments; 1 to 3 disc pores associated with each spiracle. Body with sparsely scattered, short, fine setae, most 3-4μ long; a few setae around gonopore longer, 8-12μ long. Dorsal sclerotized boss about 300μ diameter; consisting of a narrow rim of irregular width plus a large central rosette of around 35 to 45 radiating pouch-like caeca; individual caeca of variable width and length; marginal caeca extending inward at about 45° angle, broadly conical, with inner ends rounded; an occasional caeca with inner end bifurcate; inner caeca becoming more nearly perpendicular toward center of rosette, generally more slender than marginal; orifices of caeca intimately associated and difficult to differentiate. A few very small setae, about 3μ long, scattered on boss among caecal orifices; no discernible glandular structures associated with caeca.

Redescribed from four specimens mounted from dry material in Maskell collection labeled "*Sphaerococcus elevans* Maskell. Australia. #435." Maskell (1895) gives the type locality as Mildura, Victoria, C. French collector, and host *Eucalyptus dumosa.* The above specimens have been designated as paralectotypes and are deposited in the Collection of the Division of Scientific and Industrial Research, Entomology

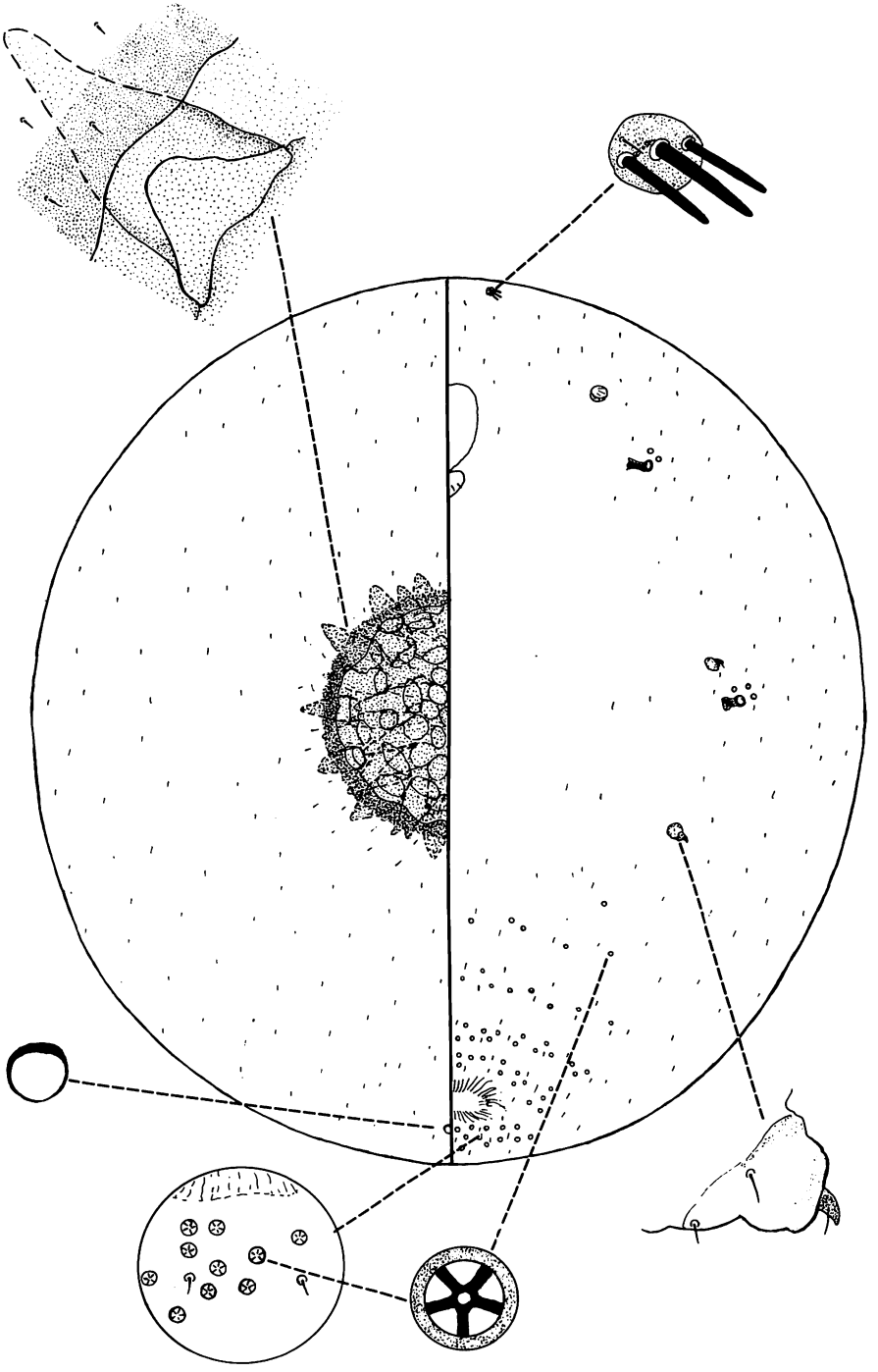

FIG 1. *Floracoccus elevans* (Maskell); adult female.

Section, Nelson, New Zealand. One of Maskell's unstained slide preparations of this species, which was examined by me at Nelson in September, 1972, has been designated as the lectotype.

As Maskell's description indicates, females of this coccid inhabit circular convex blisters in the bark of the host. In the original sample these blisters range from 4 to 7 mm in diameter, and each of the four remaining blister tops bears a minute, irregular central, orifice. As previously noted, these blisters are somewhat similar to those formed in *Eucalyptus* bark by species of the genus *Sphaerococcopsis* (Beardsley 1974). The blisters formed by the latter group tend to be deeper and have somewhat larger and more regular circular orifices when they are mature. A few other coccids are known which inhabit blister galls in *Eucalyptus* bark in Australia (e.g.: *Sphaerococcus pustulans* Green and a related, undescribed species in my collection). Other such forms doubtlessly await discovery, as the coccid fauna associated with *Eucalyptus* species in Australia is both extensive and, as yet, poorly known.

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